

34. (New) A process for concentrating dendritic cells, comprising:

- isolating mononuclear cells from blood;
- concentrating mononuclear cells possessing CD14 surface marker;
- culturing the cells of step b) in a medium containing cytokines GM-CSF and IL-4; and
- culturing the cells of step c) together with hyaluronic acid fragments, wherein said hyaluronic acid fragments possess from 1 to 50 hyaluronic acid basic building blocks, in order to cause the cells to mature irreversibly into dendritic cells, the basic building block being an aminodisaccharide consisting of D-glucuronic acid and N-acetyl-D-glucosamine which are linked by a β 1-3 glycosidic bond.

35. (New) The process of claim 34, wherein the hyaluronic acid fragments of step d) are modified.

in what way

36. (New) The process of claim 34, wherein the mononuclear cells are isolated from a leukocyte concentrate using a density gradient.

37. (New) The process of claim 36, wherein the density gradient is a Ficoll density gradient.

38. (New) The process of claim 34, wherein the cells possessing the CD14 surface marker are concentrated using at least one antibody that is directed against the CD14 surface marker.

39. (New) The process of claim 34, wherein the cells possessing the CD14 surface marker are cultured in a medium that contains GM-CSF at a concentration from 5,000 to 10,000 U/mL and IL-4 at a concentration from 100 to 1,000 U/mL.

40. (New) The process of claim 34, wherein the hyaluronic acid fragments each contain from 1 to 10 aminodisaccharides.

41. (New) The process of claim 34, wherein the cells possessing the CD14 surface marker are cultured for 72 hours to 7 days in a medium containing GM-CSF and IL-4.

42. (New) The process of claim 34, wherein the cells in step d) are cultured together with hyaluronic acid fragments for at least 48 hours.

43. (New) The process of claim 35, wherein the hyaluronic acid fragments are chemically modified.

44. (New) A vaccine comprising an antigen or peptide and a low molecular weight hyaluronic acid fragment consisting of 1 to 50 basic units, wherein the basic unit is an aminodisaccharide consisting of D-glucuronic acid and N-acetyl-D-glucosamine linked by a β 1-3 glycosidic bond.

45. (New) The vaccine of claim 44 further comprising a carrier system.

46. (New) The vaccine of claim 44, wherein the hyaluronic acid fragments are modified.

47. (New) The vaccine of claim 46, wherein the hyaluronic acid fragments are chemically modified.

48. (New) The vaccine of claim 44, which is formulated for subcutaneous, intracutaneous or intravenous administration.

49. (New) The vaccine of claim 44, wherein the vaccine comprises two separate formulations, wherein one formulation comprises an antigen or peptide and the second formulation comprises the low molecular weight hyaluronic acid fragment.

50. (New) The composition of claim 49, which further comprises a carrier system.

51. (New) The composition of claim 49, wherein the low molecular weight hyaluronic acid fragment is modified.

52. (New) The composition according to claim 51, wherein the low molecular weight hyaluronic acid fragment is chemically modified.

53. (New) The vaccine of claim 44, wherein the low molecular weight hyaluronic acid fragment is coupled to the antigen or peptide.

54. (New) The composition of claim 53, wherein the low molecular weight hyaluronic acid fragment is modified.

55. (New) The composition of claim 54, wherein the low molecular weight hyaluronic acid fragment is chemically modified.

56. (New) The composition of claim 49, wherein the peptide or the antigen is present as a separate molecule in a microsphere.

57. (New) A [vaccine] comprising dendritic cells that have been cultured with a low molecular weight hyaluronic acid fragment consisting of 1 to 50 basic units, wherein the basic unit is an aminodisaccharide consisting of D-glucuronic acid and N-acetyl-D-glucosamine linked by a β 1-3 glycosidic bond.

58. (New) The vaccine of claim 57, which further comprises an (antigen or peptide).

59. (New) A method of maturing dendritic cells comprising culturing the dendritic cells with hyaluronic acid fragments consisting of 1 to 50 basic units, wherein the